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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,430	10/16/2003	Claudio Colombo	Q77861	5829

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EXAMINER	
KASRAIAN, ALLAHYAR	
ART UNIT	**PAPER NUMBER**
2609	
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05/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/685,430	COLOMBO, CLAUDIO	
	Examiner	Art Unit	
	Allahyar Kasraian	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2003*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-7* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *16 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☒ All b)☐ Some * c)☐ None of:
    1.☒ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date *16 October 2003*.
4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement submitted on October 16, 2003 has been considered by the Examiner and made of record in the application file.

Preliminary Amendment

3. The present Office Action is based upon the original patent application filed on October 16, 3003 as modified by the preliminary amendment filed on October 16, 2003. **Claims 1-7** are now pending in the present application.

Drawings

4. The drawings are objected to because the specification (line 2 of page 5 from) refers to the switching equipment "RXSW" in FIG. 5; however, RXSW is not shown in FIG. 5 of the drawings. The examiner considers the equipment TXSW on RX SIDE as RXSW.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities:
    a. On line 2 of page 2, --)-- is missed after "containers."
    b. On line 18 of page 7, one of the --.-- should be deleted after "etc"

Appropriate correction is required.

Claim Objections

6. **Claim 6** is objected to because of the following informalities:

a. On **line 2** of **claim 6** (on page 5 of preliminary amendment), replace "from" with --for-- after "(CC1; CC2)"

Appropriate correction is required.

7. **Claim 7** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 7 discloses an "apparatus" with further limitations for independent **claim 1** that describes a "method". For purpose of finding prior art, the examiner considers that **claim 7** discloses further limitations for **claim 5**, and in line 1 of claim 7 (on page 5 of the preliminary amendment) the claim should state, "Apparatus according to claim **5**..." Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim **1-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Feinberg (U.S. Patent # 7,110,421 B2)** in the view of **Kaneko (U.S. Patent # 4,656,645)**.

Consider **claim 1**, Feinberg clearly shows and discloses method for transmitting/receiving data packet frames in a multi-channel wireless transmission system, the method comprising the steps of receiving a plurality of data packets to be transmitted; and providing a number of radio channels for performing the transmission; and assigning the entire transport of each data packet to one radio channel (see FIG.1, FIG.2 and lines 61-65 of column 1, where it says, "a method of transmission a plurality of packets of information over a multi-channel medium. Each packet is allocated to a channel of the medium and during a first time period, each packet is transmitted on its allocated channel"). However, Feinberg fails to disclose the radio channels including one or more working channels and one or more protection channels, performing the transmission by using all the available working and protection channels in absence of failures.

In the same field of endeavor, Kaneko clearly shows and discloses radio channels including one or more working channels and one or more protection channels, and in absence of failures, performing the transmission by using all the available working and protection channels (see FIG.1, FIG. 2 and lines 2-12 of the abstract, where it says, "a plurality of transmission channels comprising regular and spare channels linking the stations... when the respective transmission channels are in normal conditions, data signal is transmitted by making use of not only the regular channel but also the spare channel. On the other hand, when a failure of any one of the transmission channels is detected by the channel monitor, data signal subject to band compression is transmitted via the non-failed channel.")

Therefore, it would have been obvious to the person of ordinary skill in the art at the time the invention was made to incorporate transmitting packets over a number of working and protection channels (in absence failure of any channels) as shown by Kaneko to the method and system, where each data packet is allocated to one radio channel, as taught by Feinberg for purpose of utilizing the available bandwidth to broadcast the sequences of a message.

Consider **claim 2**, Feinberg as modified by Kaneko disclose the claim invention **as applied to claim 1 above**, and in addition Kaneko also discloses in case a radio channel becomes affected by a failure in at least one direction, disabling the failure-affected channel in the opposite direction and assigning the entire transport of each of the further single data packets to corresponding single radio channels of the remaining un-failed radio channels (see lines 58-63 of column 2 where it says, "channel monitor means for monitoring whether at least on transition channel has failed or not; first selector means provided at the receiving station and responsive to a first command from the channel monitor means to select digital signal routing via each of non-failed transmission channels" the digital signals are considered as packets or signals carrying the packets. In addition, see FIG. 2 and lines 31-40 of column 5 which indicates the meaning of disabling either of regular (working) channel 11 or spare channel 12 in the event of a channel failure. More details are also described from lines 51-68 of column 2 and lines 1-31 of column31.)

Consider **claim 3**, Feinberg as modified by Kaneko disclose the claim invention **as applied to claim 2 above**, and in addition Kaneko also discloses the step of disabling the failure-affected channel (see FIG. 2 and lines 32-47 of column 5 describes the channel failure event) comprises the steps of: detecting that a channel has become affected by a failure (see FIG. 2 Channel Monitor 22, and monitor signals fm1 or fm2, and lines 21-22 of column 3, where it says, "the monitor means recognizes that at least one of the transmission channels has failed…"); communicating (see FIG. 2, Regular Channel 11 or Spare Channel

12), through a first communication channel (see FIG. 2 fs3 signal), the channel failure to a corresponding path source block (see FIG. 2 transmission channel 13); transferring the failure information to the corresponding path sink block (see FIG. 2 Switch CKT, 7 or 8); and finally forwarding the failure information to the path source block (see FIG. 2 Regular Channel 11 or Spare Channel 12) of the transmitting side through a second communication channel (see FIG. 2 the arrows between blocks 7 to 11 and 8 to 12).

10. Claim **4** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Feinberg (U.S. Patent # 7,110,421 B2)** in the view of **Kaneko (U.S. Patent # 4,656,645)** further in view of **Ueda (U.S. Patent # 6,771,618 B1)**.

Consider **claim 4**, Feinberg as modified by Kaneko disclose the claim invention **as applied to claim 1 above** except at the transmitting side, of attaching a sequence label/number to every data packet that is transmitted and, at the receiving side, of reordering the data packets according to the proper sequence label/number.

In the same field of endeavor, Ueda clearly shows and discloses using a sequence number for the packets at the transmitted side and rearranging them at the receiver site (see FIG. 2 and FIG. 3, packets with sequence numbers in Terminal 10- Dedicated Channel, and Terminal 10- Additional Dedicated Channel; also see lines 26-41 of column 7 where it says, “In data sending during the multi-channel mode, the mode-switching section (sending) 21 in the base station 20 sends data through the multi-channel including the terminal 10a-dedicated channel and the terminal 10a-additional dedicated channel... In data receiving, the mode-switching section (receiving side) 31 in the switching center 30 transfers data by received data (packets) being rearranged in the order of a sequence number. For example, as illustrated in FIG. 3, the packets transmitted through the terminal 10a-dedicated channel and the terminal 10a-additional dedicated channel are arranged in the order of the sequence number by means of the rearrangement means 204 in FIG. 10 before being transmitted to the network 40."

Therefore it would it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further incorporate a sequence number to the packets as taught by Ueda to the method disclosed by Feinberg as modified by Kaneko for purpose of sending and receiving data packets with order numbers in the parallel channels.

11. Claim **5 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kaneko (U.S. Patent # 4,656,645)** in the view of **Feinberg (U.S. Patent # 7,110,421 B2)**.

Consider **claim 5**, Kaneko clearly shows and discloses an apparatus for transmitting/receiving (see FIG.2 the transmitter station 30 and the receiver station 40, the apparatus can be a combination of both transmitter 30 and receiver 40 at each side) data packet frames in a multi-channel wireless transmission system comprising a number of radio channels for performing the transmission, the radio channels including at least one working channel and at least one protection channel (see FIG.2 Regular Channel 11 and Spare Channel 12), the apparatus comprising interfaces for receiving a plurality of data packets (see FIG.2 Branch CKT 24 and 27) to be radio transmitted and interfaces for outputting packets that have been received from a remote radio apparatus (see FIG. 2, Converter CKT 28 and Switch CKT 25); a number of transmitters (see FIG. 2, Switch CKT 7 and 8 of transmitter 30 along with Regular Channel 11 and Spare Channel 12); and a corresponding number of receivers (see FIG. 2 Branch CKT 24 and 27 along with Regular Channel 11 and Spare Channel 12), characterized by further comprising a dispatcher (see FIG. 2, Branch CKT4 and Converter CKT 6 with combination of Switch CKT 7 and 8, and lines 22 to 28 of column 4, where it says, "A branch circuit 4 distributes the digital signal from the circuitry 3 to two switch circuits, an analog-to-digital (A/D) converter circuit 5. A converter circuit 6 converts the digital signal from the A/D converter circuit 5 into two digital signals each having a one-half of transmission speed. Switch circuits 7 and 8 effect signal switching." Digital signals are considered as data packet); and in that, in absence of failures, the transmission is performed by using all the available working and protection channels (see details description in lines 48-68 of column 4 and lines 1-31 of column 5; and lines 2-12 of the abstract, where it says, “a plurality of transmission channels comprising regular and spare channels linking the stations… when the respective transmission channels are in normal conditions, data signal is transmitted by making use of not only the regular channel but also the spare channel. On the other hand, when a failure of any one of the transmission channels is detected by the channel monitor, data signal subject to band compression is transmitted via the non-failed channel.)

However, Kaneko fails to specify that the dispatcher assigns each packet to a transmitter so that the entire transport of each data packet is made by one radio channel.

In the same field of endeavor, Feinberg clearly discloses each packets is assigned to a radio channel at the transmitter side to send entire transport of each data packet (see FIG.1, FIG.2 and lines 61-65 of column 1, where it says, “a method of transmission a plurality of packets of information over a multi-channel medium. Each packet is allocated to a channel of the medium and during a first time period, each packet is transmitted on its allocated channel”).

Therefore, it would have been obvious to the person of ordinary skill in the art at the time the invention was made to incorporate distributes packets to multi-channels as taught by Feinberg to the dispatcher in the transmitter/receiver apparatus as disclosed by Kaneko for purpose of data packet distribution over multiple wireless links for transferring packets concurrently.

Consider **claim 6**, Kaneko as modified by Feinberg disclose the claim invention **as applied to claim 5 above**, and in addition Kaneko also discloses a communication channel (see FIG. 2 and signal fs3 and Transmission Channel 13) for reporting channel failure information between a transmitter and a receiver (see lines 31-40 of column 5, where it says, "in the event that a failure occurs in either of the transmission routes 11 and 12, the channel monitor 22, comprised of the logic circuit, becomes operative in response to monitor signals f_{m1} and f_{m2} to produce command signals f_{s1}, f_{s2} and f_{s3} for switching the switch circuits 23, 25, 7 and 8, respectively. Thus, a signal subject to band compression is transmitted via a transmission channel placed in a normal condition which is either of the transmission channels 12 and 11").

12. Claim **7** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kaneko (U.S. Patent # 4,656,645)** in the view of **Feinberg (U.S. Patent # 7,110,421 B2)** further in view of **Ueda (U.S. Patent # 6,771,618 B1)**.

Consider **claim 7**, Kaneko as modified by Feinberg disclose the claim invention **as applied to claim 5 above** except at the transmitting side, of attaching a sequence label/number to every data packet that is transmitted and, at the receiving side, of reordering the data packets according to the proper sequence label/number.

In the same field of endeavor, Ueda clearly shows and discloses using a sequence number for the packets at the transmitted side and rearranging them at the receiver site (see FIG. 2 and FIG. 3, packets with sequence numbers in Terminal 10- Dedicated Channel, and Terminal 10- Additional Dedicated Channel; also see lines 26-41 of column 7 where it says, "In data sending during the multi-channel mode, the mode-switching section (sending) 21 in the base station 20 sends data through the multi-channel including the terminal 10a-dedicated channel and the terminal 10a-additional dedicated channel... In data receiving, the mode-switching section (receiving side) 31 in the switching center 30 transfers data by received data (packets) being rearranged in the order of a sequence number. For example, as illustrated in FIG. 3, the packets transmitted through the terminal 10a-dedicated channel and the terminal 10a-additional dedicated channel are arranged in the order of the sequence number by means of the rearrangement means 204 in FIG. 10 before being transmitted to the network 40."

Therefore it would it would have been obvious to a person of ordinary skill in the art at the time the invention was made to further incorporate a sequence number to the packets as taught by Ueda to the method disclosed by Kaneko as modified by Feinberg for purpose of sending and receiving data packets with order numbers in the parallel channels.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

    a. Paryani (U.S. Patent Application Publication # 2003/0026269) discloses System and Method for Accessing a Multi-line Gateway using Cordless Telephony Terminals

14. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

    Commissioner for Patents
    P.O. Box 1450
    Alexandria, VA 22313-1450

    Hand-delivered responses should be brought to

    Customer Service Window
    Randolph Building
    401 Dulany Street
    Alexandria, VA 22314

15. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Allahyar Kasraian whose telephone number is (571) 270-1772. The Examiner can normally be reached on Monday-Thursday from 8:00 a.m. to 5:00 p.m.

    If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Pérez-Gutiérrez can be reached on (571) 272-

7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Allahyar Kasraian
A.K./ak

May 10, 2007